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AUTHOR Greenbaum, Howard H.; Falcione, Raymond L.
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ABSTRACT

Organizational communication research needs a conceptual model or taxonomy of variables for developing a knowledge base for past and future findings and information access and retrieval. The proposed Outcome-Determinant-Interface (ODI) model distinguishes three major groups of variables, each divided into classes and subclasses. The outcome variables, representing desirable organizational end results, are morale, institutionalization, performance-effectiveness, and adaptiveness-innovation. Determinant variables account for the level of outcome effectiveness achieved, and include individual-employee, work-situation and work-group, organizational, and environmental determinants. Outcome and determinant variables may be dependent or independent. Moderating between outcome and determinant variables are communication interface variables, grouped into intrapersonal, interpersonal, intragroup, intergroup, organization-wide, and interorganizational communication. A survey of 105 organizational-communication research studies, examining combinations of the outcome variable adaptiveness-innovation with all possible determinant and interface variables, revealed that a majority of possible research categories had not been studied. Further refinement of the proposed ODI taxonomy could produce an inventory of organizational communication propositions, generalizations, and areas for future research. (RW)

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ORGANIZATIONAL COMMUNICATION RESEARCH: AN EXPLORATORY APPLICATION OF A CONCEPTUAL MODEL FOR AN ORGANIZED KNOWLEDGE BASE

Howard H. Greenbaum
Hofstra University

Raymond L. Falcione
University of Maryland

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ABSTRACT

This paper reports as to the results of an exploratory application of a conceptual model intended to be adequate to serve as a knowledge base for organizational communication research findings.

It is maintained that the field of organizational communication has no sound conceptual model to consolidate research findings in a meaningful way, and the Outcome-Determinant-Interface (ODI) Classification System is proposed as a conceptual model for the development of an organized knowledge base.

The classification system consists of four outcome variables, four major groups of determinant variables containing a total of 21 sub-variables, and six types of communication interface. Each of the four outcome variables has 144 possible research categories and each of these categories is given a distinctive numerical designation. The system is capable of expansion or contraction, and amenable to change in respect to variables and interfaces.

The conceptual model has been applied to 610 research studies appearing in the year 1978. The present report relates to 105 studies concerned with the outcome variable of Adaptiveness-Innovation. Author names and specific content of studies, as in an overview, are not furnished. Each of the writings is analyzed as to independent variable, dependent variable, and type of communication interface; and a report is rendered as to research categories studied in 1978, and those research categories for which writings were not found.

It is noted that the further development and application of this conceptual model could result in an inventory of propositions relative to categories containing adequate research, each proposition relating to a category formed by the unique combination of an outcome variable influenced by a determinant variable in a specific type of communication interface.

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ORGANIZATIONAL COMMUNICATION RESEARCH: AN EXPLORATORY APPLICATION OF A CONCEPTUAL MODEL FOR AN ORGANIZED KNOWLEDGE BASE

INTRODUCTION

An organized knowledge base has been acknowledged as an essential for all disciplines. Blackwelder (1967) in his definitive work on the subject of biological taxonomy, quotes many scientists as to the value of taxonomy. He credits G. G. Simpson (1961) with stating that "it is impossible to speak of the objects of any study, or to think lucidly about them, unless they are named; and it is impossible to examine their relationships to each other and their places among the vast, incredibly complex phenomena of the universe, in short to treat them scientifically, without putting them into some sort of formal arrangement". This need for an organized knowledge base is also true of organizational communication.

Guetzkow's (1968) comments as to the state of affairs in the field of sociology are probably equally applicable to writings in organizational communication, when he notes that "efforts are redundant and inefficient, that scholars unknowingly report studies which already have been done, and that consolidation will permit scholars to build more cumulatively so their researches are less fragmental and ephemeral". In the field of communication, this same condition was noted by McGrath and Altman (1966) in respect to small-group research; by Downs (1969) when he indicated that we have a multitude of studies in organizational communication but no one to synthesize the results; and by Giesselman (1977) when he indicated that communication research has a mass of undigested, often sterile, empirical data, that researchers need shared paradigms to help channel and coordinate efforts, and that

analyzing, classifying and reclassifying may be a procedural direction to achieve some order, some understanding of the state of the art so as to know better how to channel our research activity.

The viewpoint expressed in this paper is that the time has come to organize the knowledges developed in the field of organizational communication. At this time, we are not in a position to supply an accurate and meaningful taxonomy of organizational communication, one that arranges organizational communication phenomena into groups that are hierarchically ordered as to commonalties in accordance with a basic conceptual schema. However, we can begin to present models for evaluation and improvement by the processes of classification, group-making based on relationships, nomenclature, the assignment of a distinguishing name and numerics to each group accompanied by operational definitions thereof, and identification, the process through which the individual unit is placed in a group as a result of the recognition that it is similar to others in that group (Blackwelder, 1967; Laufer, 1968).

Taxonomies and Organizational Theory

Taxonomy can be defined as a mode of inquiry into a given subject field, involving the arrangement of objects or concepts into groups on the basis of their relationships. It has been termed a systematic distinguishing, ordering, and naming of type groups within a subject field (Scaros, 1976).

In the field of organizational theory, Carper and Snizek (1980) analyzed 18 published works employing a taxonomy of organizations, including Burns and Stalker (1960), Woodward (1965), Thompson (1967) and others; noting that, with few exceptions, the taxonomic history in this subject field is descriptive of an effort to present the major generic types of organizations (e.g., Burns and Stalker (1961) -

mechanistic vs. organic). Noteworthy is the fact that Haas, Hall and Johnson (1966) prepared an empirically derived taxonomy of ten organizational types based on an analysis of 99 variables relevant to each of 75 organizations, concluding that the key to the entire taxonomy construction process is finding a core dimension that can be used to separate individual organizations.

Taxonomies and Organizational Communication Research

In published works more directly related to the field of organizational communication taxonomies, Katz and Kahn (1966) noted that five kinds of communication activities are present in most fully developed organizations - production, maintenance, boundary, adaptive, and managerial; Thayer (1968) recognized four different levels of analysis from which to view communication - intrapersonal, interpersonal, organizational, and technological; Eilon (1968) employed the taxonomic mode of inquiry to classify messages; Bretz (1971) and Scaros (1976) utilized the taxonomic mode of inquiry to classify media; Greenbaum (1974) suggested a taxonomic mode of inquiry relative to organizational communication activities, illustrating the concept with the use of four variables - communication networks, interface participants, informal vs. formal relationship, and internal vs. external interface; Roberts et al. (1973) suggested a perspective from which future organizational communication research might be considered, giving attention to context (internal, external), level of analysis (interpersonal, inter-unit, inter-organization, etc.) and variables relative to communication, the individual, the organization, and the environment; Farace and McDonald (1974) provided concepts for organizing knowledge of organizational communications in terms of structure, function, and system levels; and Voos (1967), Knapp (1969), Carter (1972), and Falcione/Greenbaum (1980), each utilize a taxonomic mode of inquiry

relative to the overall subject matter of organizational communication, presenting eight to ten dissimilar classifications intended to categorize the literature, with classification titles including decision-making, upward communication, communication theories, interpersonal communication, communication media, etc.

Nature and Plan of Paper

The taxonomic mode of inquiry in this paper is concerned with the subject field of organizational communication research findings. A major premise is that communication is a moderating variable in all organizational relationships. The core dimensions used as a basis for classification are threefold: (1) Outcome variables related to selected theories of organizational effectiveness; (2) Determinants of the selected outcome variables; and (3) Communication interfaces pre-stated as intrapersonal, interpersonal, intragroup, intergroup, organization-wide, and inter-organization communication. In terms provided by Carper and Snizek (1980, pp. 65-66), this work started as a "theoretically constructed taxonomy", relying on deduction and collecting data primarily in support of the proposed taxonomy, but after application to the literature in the field, and undergoing considerable refinement, it might deserve some or all of the title of an "empirically constructed taxonomy" which employs data to actually produce the taxonomy.

Attention is given to the following subjects: (1) A conceptual model for an organized knowledge base suitable for organizational communication research findings; (2) an exploratory application of the conceptual model to 105 research studies concerned with the outcome variable of Adaptiveness-Innovation; and (3) a consideration of the possibility that further development and implementation of this kind of model might result in an inventory of propositions relative to

areas of organizational communication containing adequate research and support for findings, - each proposition relating to a category of research formed by the combination of an outcome variable influenced by a determinant variable in a specific type of communication interface.

THE CONCEPTUAL MODEL

Our objective is to plan a classification system that will efficiently organize the past and future findings of organizational communication research, while providing for reasonably easy access and retrieval of information. The classification system should furnish a conceptual inventory of our knowledge, representing a consolidation that will permit scholars to build cumulatively, and should be one that is capable of absorbing change both in content and classifications as improvements are suggested, tested, and accepted.

The act of classifying a written work in organizational communication research involves judgment, and judgment requires guidelines, hence the need for a conceptual or theory-based model for knowledge storage. The conceptual model to be presented is centered around the concept of organizational effectiveness, the goals of organizations, and the factors that have a relationship to the attainment of such goals. The effort herein provides a systematic procedure whereby the findings in each relevant writing are classified first in terms of the nature of the key variables, whether, independent, dependent, or moderating; and then in terms of organizational effectiveness factors, whether outcome variables (end-result variables) considered to be goals of organizations, or determinant variables (causal variables).

Aside from the well-known concepts relative to independent and dependent variables, the basic elements of the proposed system consist

of (1) Outcome Variables, (2) Determinant Variables, and (3) Communication Interfaces in the role of moderating variables. A brief explanation of each of these components follows, together with a discussion of the use of numerical coding of research areas, and the place of organizational communication, as a multi-faceted variable, in the Outcome-Determinant-Interface Classification System.

Outcome Variables

Outcome variables are defined as those variables thought to represent desirable end-results or goals of organizations, the indicators of effectiveness. This concept is not identical with the concept of dependent variable, in that outcome variables may serve as either a dependent variable or an independent variable, depending on the nature of the study. Thus, we may have an outcome/dependent variable and an outcome/independent variable.

While there is no general agreement on the components of outcome or end-result variables (See Steers, 1975), for purposes of the ODI Classification System, outcome variables are considered to consist of (1) Morale, (2) Institutionalization, (3) Performance-Effectiveness, and (4) Adaptiveness-Innovation. These four outcome variables represent a modification of the intervening variables selected by Price (1968) in his analysis of 50 case studies of organizational effectiveness.

Definitions for each of the four outcome variables follow:

MORALE: - the degree to which individual motives are gratified (Price, 1968); found in discussions of absenteeism, alienation, satisfaction, and succession, including turnover (Price, 1972).

INSTITUTIONALIZATION: - the degree to which the decisions of a social system are supported by its environment (Price, 1968); found in discussions of consensus, co-optation (the recruitment of social system members with the goal of increasing institutionalization), and ideology (beliefs that are publicly expressed with the manifest purpose of influencing others) (Price, 1972). "Acceptance" is a useful synonym for this concept.

PERFORMANCE-EFFECTIVENESS: - the degree to which a social system achieves its goals (Price, 1972); found in discussions of performance, success, goal achievement, objectives; including the element of productivity, as found in discussions of efficiency, and conformity, the degree to which performance corresponds to the norms of a social system (desired course of action), found in discussions of actual versus ideal behaviors. (Price 1968).

ADAPTIVENESS-INNOVATION: - the degree to which a system is flexible, and can respond rapidly to changing situations (Price, 1968); and the degree to which a social system is a first or early user of an idea among its set of similar social systems found in discussions of change, adaptiveness, flexibility, ossification, ritualism (Price 1972).

Determinant Variables

Determinant variables are the factors that account for the level of effectiveness achieved in respect to the outcome variables. The concept of determinant variables is not identical with the concept of independent variable, in that determinant variables may serve as independent variables or dependent variables, depending on the nature of the study. Thus we may have a determinant/independent variable and a determinant/dependent variable.

For purposes of the ODI Classification System, four major categories of determinant variables have been selected: (1) Individual Employee Determinants, Worksituation & Workgroup Determinants, (3) Organization Determinants, and (4) Environment Determinants. Definitions for each of these four major groups of determinants follow:

INDIVIDUAL EMPLOYEE DETERMINANTS: - variables related to the personal characteristics of an employee that influence behavior in the organization; including demographics, needs/goals, perceptions/attitudes, abilities/skills, emotions, and general personality.

WORKSITUATION & WORKGROUP DETERMINANTS: - variables related to work-unit structure and process that influence behavior in the organization; including workarea leadership, communication and motivation, as well as job design, group size, role, status, participation, peer relations, supervisor-subordinate relations, among other factors.

ORGANIZATION DETERMINANTS: - variables related to the larger organization structure and process that influence behavior in the organization; including organization leadership (policies, objectives, styles), communication (structure, skills, climate, management), and motivation (support and reward systems), as well as specialization, machanization, routinization, unity of command, authority, hierarchical level, technology, size, systems, coordination, span of management, complexity, formalization, administrative staff, bureaucracy, and line-staff relations, among others.

ENVORONMENT DETERMINANTS: - variables related to the environment outside of the organization, including economic, political/legal, social, technological and general cultural factors that influence behavior in the organization.

Communication Interfaces as Moderating Variables

Organizational communication research has the mission of looking at the communication variable in all organizational events (Muchinsky, 1978). Communication pervades all aspects of organizational life, and is basic to attitudinal formulations relating to organizational behavior. Basic organizational variables involve some form of communication, else they cannot be perceived. Therefore, the ODI Classification System takes the view that one of the major functions of the communication variable is to serve as a moderating variable, changes in which can affect the relationships between independent and dependent variables, and between determinant and outcome variables. Stone (1978) defines "moderator variables" as any variable which when systematically varied "causes" the relationship between two other variables to change - i.e., the relationship between two other variables will differ depending upon the level of the moderator variable.

Communication as a moderating variable is similar to the intervening variable concept expressed by Likert (1967) in his conceptual schema as to factors relating to organizational effectiveness. The causal sequence of Likert includes (1) causal variables (leadership, climate, structure), (2) intervening variables (communication,

motivation, decision-making, control, coordination), and (3) end-result variables (job satisfaction, productivity, profit, labor-management relations).

The interaction of persons working within an organization can be termed "communication interface". The interaction may involve two or more persons, within or outside the group or organization. In addition, it is useful to consider attitudes, feelings and self-reflections as a form of internal communication interface, or intra-personal interaction, for the reason that mind-states are fundamentals for interaction with other persons. Therefore, the Classification System in this paper includes six types of communication interface serving as moderating variables: (1) Intrapersonal, (2) Interpersonal, (3) Intragroup, (4) Intergroup, (5) Organization-Wide, and (6) Inter-Organizational.

Definitions for each of the six types of communication interface follow:

INTRAPERSONAL COMMUNICATION: - communication operating within the individual, consisting of the variables of motivation, perception, and emotion, which strongly influence interpersonal communication in organizations (Wofford et al. 1972).

INTERPERSONAL COMMUNICATION: - communication relative to person to person interaction in organizations (Greenbaum & Falcione 1977).

INTRAGROUP COMMUNICATION: - communication distinguished by the fact that the interacting parties are members of the same group in the organization (Greenbaum & Falcione 1977).

INTERGROUP COMMUNICATION: - communication distinguished by the fact that the interacting parties are representatives of different groups within the organization (Greenbaum & Falcione 1977).

ORGANIZATION-WIDE COMMUNICATION: - communication involving the sending of messages to large groups of people within the organization, distinguished by the fact that it is source oriented, involves large groups of receivers, has less interaction, and uses more general language (Goldhaber 1974).

INTERORGANIZATIONAL COMMUNICATION: - communication distinguished by the fact that the interacting parties are representatives of different organizations. Communication among organizations

Numerical Coding of Research Categories

The establishment of a numerical coding schema for the ODI Classification System can improve the effectiveness of the system by furnishing a higher level of clarity to the processes of classifying research studies. Prior definition of the attributes of a research classification, in terms of independent and dependent variables, and the assigning of a numerical classification number thereto, can help greatly to remove ambiguity as to the exact classification of a given study, and tends to simplify the designation of such a classification in future references thereto.

Numerical coding furnishes a convenient and succinct identification of a given class of research, eliminating the need for extended explanation. Numerical coding permits tabular presentations with greater clarity than if the original explanatory prose were the only vehicle of communication. However, the numerical coding must be readily interpretable. Toward that end, it is important to have a key to the numerical code immediately accessible in all presentations utilizing numerical coding.

Table 1 presents numerical coding for each of the three major elements of the ODI Classification System: - Outcomes, Determinants, and Communication Interfaces; and also indicates numerical coding for the major classes within each of the major elements.

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Table 1 about here
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Table 2 provides further details as to the numerical coding within the major classes of determinant variables, indicating each of the four major classes and subclasses of each class.

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Table 2 about here
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Based on the numerical coding shown in Tables 1 and 2 above, it is possible to construct a numerical classification system linking the numerical codes for the dependent variable (DV), the independent variable (IV), and the type of communication interface, the moderating variable (MV). This can be expressed as DV-IV-MV, so that, for example, the class number 1-210-30 identifies organizational communication research writings concerned with MORALE as the dependent variable, STRUCTURE OF THE WORK SITUATION as the independent variable, and INTRAGROUP COMMUNICATION as the type of communication interface, the moderating variable.

Table 3 presents 126 research categories relating to the outcome/dependent variable of Adaptiveness-Innovation. The categories are obtained from the possible combinations of one outcome/dependent variable, four major classes of determinant/independent variables with 21 subclasses, and six types of communication interface, the moderating variables. Inasmuch as all of the categories relate to the outcome/dependent variable of Adaptiveness-Innovation (code 4), each category number starts with code 4.

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Table 3 about here
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A full presentation of independent variables influencing the outcome/dependent variable of Adaptiveness-Innovation should include the three outcome/independent variables of Morale, Institutionalization, and Performance-Effectiveness. With six communication interfaces, this adds six categories for each of these outcome/independent variables, or a total of 18 categories plus the 126 categories in Table 3. thus furnishing a total of 144 categories for this outcome/dependent variable. This means that the four outcome/dependent variables of Morale,

Institutionalization, Performance-Effectiveness, and Adaptiveness-Innovation have 4x144 or 576 categories in which to classify research findings.

The Place of Communication in the ODI Classification System

Aside from the role of communication as an interface and moderating variable present in all stimuli-modifying behavior, the communication variable in the ODI Classification System is treated as a determinant variable under two of the four major groups of determinants: - (1) Communication in the Worksituation & Workgroup; and (2) Communication in the Organization (see Table 3).

Communication as a determinant/dependent variable is subject to the influence of other variables, and as a determinant/independent variable influences outcome variables and other determinant variables. Therefore, in addition to the role of communication as a moderating variable in all organizational relationships, the Classification System provides a place for communication as a dependent or independent determinant variable.

In classifying research involving communication as a determinant variable, either dependent or independent, it is useful to subdivide organizational communication into four subgroups: (1) Communication Structure, (2) Communication Skills, (3) Communication Climate, and (4) Communication Management. These subgroups closely follow the suggestions in Sanford, Hunt, and Bracey (1976) except that the subgroup of "communication management" has been added to provide an explicit category for elements of communication control. (See Tables 4 and 5.)

A Note As To The Further Refinement Of The Classification System

Several of the determinant subclasses in Table 3 are very broad

and ambiguous (e.g., "structure", or "process") so that a refinement of the subclasses is useful and necessary. Table 4 presents 26 subgroups for the five subclasses of the Worksituation & Workgroup Class, and Table 5 presents 21 subgroups for the five subclasses of the Organization Class of Determinants.

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Table 4 about here
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Table 5 about here
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With these refinements in classification, the possible independent variables influencing a given outcome/dependent variable increases from 21 to 61 (6 individual employee determinants, 26 workgroup determinants, 21 organization determinants, 5 environment determinants, and 3 other outcome variables); and with six types of communication interface, each outcome/dependent variable has 6x61 or 366 possible categories in which research may occur.

Such a refinement in the categories of the ODI Classification System results in an increase of research categories for all four outcome/dependent variables from 576(4x144) to 1464(4x366); and an increase of research categories for all possible dependent variables, as defined in this system, from 3,600 to 22,692.[1]

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1 In discussion of Table 3, it was indicated that a system of that size had 21 classes of determinants and 4 outcome variables or a possible 25 dependent variables with 144 categories for each dependent variable or a total of 3,600 potential research categories. Increasing the number of determinants, as per Tables 4 and 5, by subgrouping the major groups, results in a system with 58 determinants and 4 outcome variables or a possible 62 dependent variables with 366 categories for each dependent variable or a total of 22,692 potential research categories.

METHODOLOGY

Sources of Data

The conceptual model described above has been applied to 610 writings related to the field of organizational communication. Information relative to these writings was derived from the annotated entries in Falcione and Greenbaum (1980), wherein abstracts, analysis and overview data are supplied as to organizational communication publications in the year 1978. The writings selected were drawn from the disciplines of communication, organizational behavior, management, information systems, psychology, sociology, social-psychology and education. Rather than thinking of these writings as consisting of literature in the field of organizational communication, Falcione and Greenbaum point out that it is more accurate to consider the writings as literature related to organizational communication.

Nature of Data Processing

Each writing was analyzed so as to obtain the major dependent variable, independent variable(s), and type of communication interface. In some cases one writing yielded more than one dependent variable with related independent variable(s). In such instances a decision was made as to the major emphasis of the study and only one set of variables was included. Where available, moderating variables, other than communication, were noted, but not included in the present analysis. Table 6 provides four illustrations of the classification process, indicating the annotation descriptive of the research study, and the derived dependent variable, independent variable(s), and communication interface.

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Table 6 about here
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Following the examination of the research study annotation, and the derivation of the major dependent variable, independent variable(s), and type of communication interface, a later step was to designate the outcome variables and determinant variables in accordance with definitions presented earlier in this paper.

Limitations

Several limitations apply to this presentation: (1) Although 610 writings were screened, the analysis and discussion is limited to 105 research studies concerned with the outcome/dependent variable of adaptiveness-innovation; (2) The names of authors and full bibliographical references of research studies are not presented, and the particular subject matter and findings of each study is not furnished, inasmuch as the purpose of this paper is not to provide an overview of research findings, but rather to provide a preliminary test as to whether the ODI Classification System can be applied and utilized as a knowledge-base tool; (3) The present analysis of individual research studies was structured to yield independent and dependent variables, when in many cases the original researcher reported correlational relationships and did not attribute causality to specific variables (See handling of correlates by Price, 1977, and covariation by Berger and Calabrese, 1975); (4) The selection of particular outcome variables and determinant variables was based on the author's preferences for practical organizational effectiveness concepts, although recognizing alternative possibilities.

FINDINGS

Dependent Variables in 610 Research Reports

The frequency of dependent variables found in the 610 studies follows:

Dependent Variable	Number	Percent
Performance-Effectiveness	225	37%
Morale	120	20
Adaptiveness-Innovation	105	17
Institutionalization	30	5
Structure & Process	8	1
Leadership	39	6
Communication	63	10
Motivation	20	3
Rounding differences		1
Totals	610	100%

Seventy nine percent of the studies employed one of the four outcome variables (Performance, Morale, Adaptiveness, Institutionalization) as the dependent variable, and one or more of the determinant variables as independent variables. However, 130 studies or 21 percent of the 610 writings were concerned with factors influencing determinant variables, so that, in these studies, certain determinant variables functioned as independent variables, while another determinant variable (e.g., Leadership) served as the dependent variable.

Adaptiveness-Innovation Studies: - Independent Variables and Communication Interfaces

As indicated in Table 7, the 105 research studies of Adaptiveness-Innovation were concerned with all four major groups of determinants as independent variables, with the most popular being the Organization Determinants (44 studies), and the Work-Situation & Workgroup Determinants (27 studies), followed by the Environment Determinants (18 studies), and the Individual-Employee Determinants (16 studies).

In terms of the frequency of communication interfaces involved in the 105 research studies of Adaptiveness-Innovation, Table 7 notes that the most popular interface was organization-wide communication (46 studies), and intragroup communication (29 studies), while intergroup communication and inter-organizational communication had 10 and 12 studies respectively, followed by intrapersonal

communication with five studies and interpersonal communication with three studies.

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Table 7 about here
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Adaptiveness-Innovation Studies: - The Individual-Employee Class of Determinant Variables

Table 7 classifies the 16 research studies with Individual-Employee Determinants into the subclasses of Demographics (2 studies), Needs-Goals (3 studies), Perceptions (3 studies), and Abilities/Skills (8 studies). The most frequent type of communication interface was that of Intrapersonal communication and Intragroup communication with 5 studies each, followed by Interpersonal, Intergroup, and Organization-Wide communication with 2 studies each; no studies being indicated for Inter-Organizational communication.

Of the 36 subclasses in this major class of determinants, there were research studies in 11 subclasses, and no studies in the following 25 subclasses: 4-110-10/20/40/60, 4-120-20/40/50/60, 4-130-20/40/50/60, 4-140-60, 4-150-10/20/30/40/50/60, and 4-160-10/20/30/40/50/60.

Adaptiveness-Innovation Studies: - The Worksituation & Workgroup Class of Determinants

Table 7 classifies the 27 research studies with Worksituation & Workgroup Determinants into the subclasses of Structure (6 studies), Process (7 studies), Leadership (4 studies), and Communication (10 studies). The most frequent type of communication interface was that of Intragroup communication with 16 studies and Organization-Wide communication with 8 studies, followed by 2 studies in Intergroup communication and one study in Interpersonal communication; no studies being indicated for Intrapersonal and Inter-Organizational communication.

Of the 30 subclasses in this major class of determinants, there were studies in 10 subclasses, and no studies in the following 20 subclasses: 4-210-10/20/40/60, 4-220-10/20/40/60, 4-230-10/40/60, 4-240-10/20/60, and 4-250-10/20/30/40/50/60.

Adaptiveness-Innovation Studies: - The Organization Class of Determinant Variables

Table 7 classifies the 44 research studies with Organization Determinants into the subclasses of Structure (9 studies), Process (3 studies), Leadership (7 studies), Communication (24 studies), and Motivation (1 study). The most frequent type of communication interface was that of Organization-Wide Communication (30 studies), followed by Intragroup Communication (7 studies), Inter-Organization Communication (5 studies) and Intergroup Communication (2 studies); no studies being indicated for Intrapersonal Communication and Interpersonal Communication.

Of the 30 subclasses in this major class of determinants, there were studies in 13 subclasses, and no studies in the following 17 subclasses: 4-310-10/20/40, 4-320-10/20/40/60, 4-330-10/20/30, 4-340-10/20, and 4-350-10/20/30/40/60.

Adaptiveness-Innovation Studies: - The Environment Class of Determinant Variables

Table 7 Classifies the 18 research studies with Environment Determinants into the subclasses of Economic (6 studies), Political/ Legal (7 studies), Social (1 study), Technological (1 study), AND General Cultural (3 studies). The most frequent type of communication interface was that of Inter-Organizational Communication (7 studies), and Organization-Wide Communication (6 studies), followed by Intergroup Communication (4 studies) and Intragroup Communication (1 study); no

studies being indicated for Intrapersonal Communication and Interpersonal Communication.

Of the 30 subclasses in this major class of determinants, there were studies in 8 subclasses, and no studies in the following 22 subclasses: 4-410-10/20/30/40, 4-420-10/20/50, 4-430-10/20/30/40/50, 4-440-10/20/30/40/50, and 4-450-10/20/30/40/60.

DISCUSSION

Comments in the section on FINDINGS noted that 79 percent of the dependent variables in 610 organizational communication studies were identified to be one of the four designated outcome variables, while 21 percent of the dependent variables were found to be one of the 21 determinant variables. Performance, with 37 percent of the 610 studies, rated as the most frequently studied dependent variable, Morale, with 20 percent, was the next most popular dependent variable, and Adaptiveness-Innovation with 17 percent of the studies was a close third in popularity and was the subject of 105 studies.

Table 7 represents a statistical summary of the analysis of the 105 studies employing Adaptiveness-Innovation as the dependent variable. In respect to the independent variables in these same studies, 16 studies or 15 percent involved individual employee determinants, 27 studies or 26 percent were worksituation & workgroup determinants, 44 studies or 42 percent were organization determinants, and 18 studies or 17 percent were environment determinants. Each class of determinants was analyzed as to the nature of the communication interface in that category of research. Of the 126 possible categories formed by six types of communication interface and 21 determinant variables relating to the outcome/dependent variable of Adaptiveness-

Innovation, this review of 105 studies reported 42 categories as being researched, while 84 categories showed no research efforts.

Determinant Variable Class	Total Categories	Categories Research	Categories Not Researched
Individual Employee	36	11	25
Worksituation & Workgroup	30	10	20
Organization	30	13	17
Environment	30	8	22
Totals	126	42	84

It is important to recognize that 105 studies, rated in general as to one major independent variable, could not possibly fill 126 research categories. So the findings must be tempered by this shortcoming of the investigation. However, a larger number of studies might reveal "more of the same", with few of the above noted non-research categories being represented.

One of the more interesting aspects of this study has been the concept that communication interfaces represent moderating variables in all organizational relationships, even though communication does serve as an independent variable or a dependent variable in many studies. In the 610 studies reviewed, communication served as a dependent variable in 20 studies, or three percent of the total; and in the studies of Adaptiveness-Innovation, communication served as an independent variable in 34 studies or 32 percent of the 105 studies reviewed. However, in all 105 studies, communication was viewed as serving as a moderating variable influencing the extent to which the independent variable(s) caused or correlated with the dependent variable. Students of communication in organizations should find interest in the following table indicating the communication-related areas in which this exploratory study of 105 published works found 84 out of 126 categories not credited with research studies:

Communication Interface	Total Categories	Research Studies Number of Studies	Research Studies Categories	Categories Not Researched
Intrapersonal	21	5	3	18
Interpersonal	21	3	2	19
Intragroup	21	29	12	9
Intergroup	21	10	5	16
Organization-Wide	21	46	13	8
Inter-organization	21	12	7	14
Totals	126	105	42	84

Undoubtedly some of the research categories not presently credited with 1978 research efforts would be found in a longer term analysis of a greater number of studies - e.g., a five year period possibly containing 300 to 400 studies of Adaptiveness-Innovation. In other cases, some of the categories may be difficult to visualize, impractical to implement or considered to have very low priority for the application of research efforts. However, while the Table 7 concepts may have deficiencies, it is hoped that it can serve the purpose of beginning to layout the huge field for communication research in organizational relationships, in the area of communication as a moderating variable.

CONCLUSION

Our purpose has been to construct and implement a classification system, a taxonomy, for the present and future findings of organizational communication research. This need for an organized knowledge base and/or theoretical models to integrate findings in organizational communication has been voiced previously (See Redding, 1979, Muchinsky, 1978, and Roberts et al. 1973).

The feasibility of a taxonomic mode of inquiry in the development of theory in the social sciences is supported by work accomplished by James Price (1977) in presenting codifications of the literature

as to employee turnover and constructing propositions as to the correlates and determinants of turnover as well as indicating turnover's impact on other organizational variables. Equally supportive on the conceptual level is Redding (1979) in his encouragement that we "stop thinking about theory and start doing theory" by a process termed "theory enactment" which he notes as consisting of at least four stages: (1) Discovery, (2) Taxonomy, (3) Structuring, and (4) Assigning causality. Therefore, on the basis of these authorities and others noted earlier in the paper, together with the knowledge of taxonomic values derived from other disciplines, and the feel of the matter obtained from the exploratory application to the outcome/dependent variable of Adaptiveness-Innovation, it is our viewpoint that extensive taxonomic work in organizational communication could both organize research findings and lead to constructive and integrated theory development.

The further development and the continual testing of taxonomical models to organize organizational research findings can result in an inventory of related propositions, an inventory amenable to continuous updating in content and adjustment in structure, and one that would furnish generalizations as to the manner in which different forms of organizational communication influence the achievement of organizational goals.

In 1976 Porter and Roberts stated that "the need is great for more varied and more innovative methodological approaches to studying communication in organizations; otherwise, the area is in severe danger of becoming sterile and non-productive". It is very possible that a taxonomic mode of inquiry can both serve the purposes of organizing our present knowledge resources, and also provide vitality in the form of an innovative methodological approach: - furnishing a

hub around which researchers plan new investigations, replicate previous studies, challenge overall concepts, and test propositions, axioms and theorems.

Undoubtedly, a very considerable effort on the part of many involved persons would be necessary to refine the conceptual bases for a useful taxonomy, and the implementative phases would be even more challenging. It appears important to start now, and let the refinements follow in an evolutionary manner.

TABLE 1

Numerical Coding for Research Categories
In The Outcome-Determinant-Interface Classification System:-
Major Elements and Major Classes

Major Elements	Available Codes	Major Classes	Numerical Coding
Outcome Variables	1-9	Morale	1
		Institutionalization	2
		Performance-Effectiveness	3
		Adaptiveness-Innovation	4
Determinant Variables	100-999	The Individual Employee	100
		The Worksituation & Workgroup	200
		The Organization	300
		The Environment	400
Communication Interface	10-99	Intrapersonal	10
		Interpersonal	20
		Intragroup	30
		Intergroup	40
		Organization-Wide	50
		Inter-Organization	60

TABLE 2

Numerical Coding for Research Categories
In The Outcome-Determinant-Interface Classification System:-
Subclasses of Major Classes of Determinant Variables

Major Class of Determinant Variable	Available Codes	Subclasses	Numerical Coding
The Individual Employee	100-199	Demographics	110
		Needs, Goals	120
		Perceptions	130
		Abilities/Skills	140
		Emotions	150
		General Personality	160
The Worksituation & Workgroup	200-299	Structure	210
		Process	220
		Leadership	230
		Communication	240
		Motivation	250
The Organization	300-399	Structure	310
		Process	320
		Leadership	330
		Communication	340
		Motivation	350
The Environment	400-499	Economic	410
		Political-Legal	420
		Social	430
		Technological	440
		General Cultural	450

TABLE 3

Numerical Coding for Classes of Determinants
Relative to the Outcome/Dependent Variable of Adaptiveness-Innovation (code 4)[1]

Independent Variables: Determinant Class and Subclasses	Code	Communication Interface: Intrapersonal (10)	Interpersonal (20)	Intragroup (30)	Intergroup (40)	Organization-Wide (50)	Interorganization (60)
INDIVIDUAL EMPLOYEE	(100)	4-100-10	4-100-20	4-100-30	4-100-40	4-100-50	4-100-60
Demographics	(110)	4-110-10	4-110-20	4-110-30	4-110-40	4-110-50	4-110-60
Needs, Goals	(120)	4-120-10	4-120-20	4-120-30	4-120-40	4-120-50	4-120-60
Perceptions	(130)	4-130-10	4-130-20	4-130-30	4-130-40	4-130-50	4-130-60
Abilities, Skills	(140)	4-140-10	4-140-20	4-140-30	4-140-40	4-140-50	4-140-60
Emotions	(150)	4-150-10	4-150-20	4-150-30	4-150-40	4-150-50	4-150-60
General Personality	(160)	4-160-10	4-160-20	4-160-30	4-160-40	4-160-50	4-160-60
WORKSITUATION & WORKGROUP	(200)	4-200-10	4-200-20	4-200-30	4-200-40	4-200-50	4-200-60
Structure	(210)	4-210-10	4-210-20	4-210-30	4-210-40	4-210-50	4-210-60
Process	(220)	4-220-10	4-220-20	4-220-30	4-220-40	4-220-50	4-220-60
Leadership	(230)	4-230-10	4-230-20	4-230-30	4-230-40	4-230-50	4-230-60
Communication	(240)	4-240-10	4-240-20	4-240-30	4-240-40	4-240-50	4-240-60
Motivation	(250)	4-250-10	4-250-20	4-250-30	4-250-40	4-250-50	4-250-60
ORGANIZATION	(300)	4-300-10	4-300-20	4-300-30	4-300-40	4-300-50	4-300-60
Structure	(310)	4-310-10	4-310-20	4-310-30	4-310-40	4-310-50	4-310-60
Process	(320)	4-320-10	4-320-20	4-320-30	4-320-40	4-320-50	4-320-60
Leadership	(330)	4-330-10	4-330-20	4-330-30	4-330-40	4-330-50	4-330-60
Communication	(340)	4-340-10	40340-20	4-340-30	4-340-40	4-340-50	4-340-60
Motivation	(350)	4-350-10	4-350-20	4-350-30	4-350-40	4-350-50	4-350-60
ENVIRONMENT	(400)	4-400-10	4-400-20	4-400-30	4-400-40	4-400-50	4-400-60
Economic	(410)	4-410-10	4-410-20	4-410-30	4-410-40	4-410-50	4-410-60
Political-Legal	(420)	4-420-10	4-420-20	4-420-30	4-420-40	4-420-50	4-420-60
Social	(430)	4-430-10	4-430-20	4-430-30	4-430-40	4-430-50	4-430-60
Technological	(440)	4-440-10	4-440-20	4-440-30	4-440-40	4-440-50	4-440-60
General Cultural	(450)	4-450-10	4-450-20	4-450-30	4-450-40	4-450-50	4-450-60

Note 1: Above Table indicates 150 categories of which 24 are summaries of subclasses and 126 are details of subclasses. Coding is based on sequence of dependent variable (DV), independent variable (IV), and communication type of interface (MV). The three sections of the numerical designation can be expressed as DV-IV-MV -- e.g. 4-110-30 is the numerical coding for the class in which Adaptiveness-Innovation is the DV, a demographic as age, sex, etc. is the IV and the moderating variable of intragroup communication is the MV. A research study of the influence of age on adaptiveness in work groups would be found in this class.

TABLE 4

Numerical Coding for Research Categories
In The Outcome-Determinant-Interface Classification System:-
Subgroups of Subclasses in The Worksituation & Workgroup
Class of Determinant Variables (Coding 200-299)

Subclasses	Available Codes	Subgroups	Numerical Coding
Structure	200-219	Job Design	211
		Technology	212
		Working Conditions	213
		Group Composition	214
		Group Size	215
		Group Norms	216
		Group Roles	217
		Status	218
		Guidelines/Policies	219
Process	220-229	Peer Relations	221
		Participation	222
		Group Cohesion/Conflict	223
		Group Dynamics/Interaction	224
		Systems/Procedures	225
		Problem Identification	226
		Problem Analysis	227
Leadership	230-239	Influence	231
		Superior-Subordinate Relations	232
		Policies	233
		Objectives	234
		Styles	235
Communication	240-249	Structure	241
		Skills	242
		Climate	243
		Management	244
Motivation	250-259	Reward Systems	251

TABLE 5

Numerical Coding for Research Categories
In The Outcome-Determinant-Interface Classification System:-
Subgroups of Subclasses in The Organization Class
of Determinant Variables (Coding 300-399)

Subclasses	Available Codes	Subgroups	Numerical Coding
Structure	310-319	Hierarchical Level	311
		Technology	312
		Product Markets	313
		Centralization	314
		Size	315
		Technical Function	316
		Information Systems	317
Process	320-329	Information Processing	321
		Coordination	322
		Change	323
		Job Performance	324
		Problem Recognition	325
Leadership	330-339	Policies	331
		Objectives	332
		Styles	333
Communication	340-349	Structure	341
		Skills	342
		Climate	343
		Management	344
Motivation	350-359	Reward Systems	351
		Status Characteristics	352

TABLE 6

Illustrations of Classification Analysis
In The Outcome-Determinant-Interface Classification System:-
From Annotative Description to Dependent Variable,
Independent Variable, and Type of Communication Interface

1- Annotation:-"Investigates the conditions that favor use of group problem-solving and decision-making, examining the effect of differing organizational climates on the selection of participatory decision-making styles."

Dependent Variable(DV): - Adaptiveness-Innovation

Independent Variable (IV): - Organization Determinants; Communication Climate

Communication Interface (MV): - Intragroup

2- Annotation:-"Outlines and evaluates types of management teams suitable for successful administrative problem-solving in school organizations."

Dependent Variable (DV): - Adaptiveness-Innovation

Independent Variable (IV): - Worksituation & Workgroup Determinants; Structure

Communication Interface (MV): - Organization-Wide

3- Annotation:-"Measures alienation within a social system in five branches of a large department store."

Dependent Variable (DV): - Morale

Independent Variable (IV): - Organization Determinants; Structure

- Individual Employee Determinants; Motivation (needs)

Communication Interface (MV): Intragroup

4- Annotation:-"Investigates potential moderators of the relationship between job design and job satisfaction, deriving dissimilar results from a comparison of two methods involving strengths of higher order needs and work value system analysis."

Dependent Variable (DV): - Morale

Independent Variable (IV): - Worksituation & Workgroup Determinants; Job Design

Moderating Variable (MV): - Individual Employee Determinant; Motivation

Communication Interface (MV): - Intrapersonal

TABLE 7

Statistical Summary of Research Studies in Year 1978 of the Outcome Variable of Adaptiveness-Innovation (code 4)[1] Classified by Determinant Variables And Type of Communication Interface

Determinant Class and Subclasses	Code	Intra-personal (10)	Inter-personal (20)	Intra-group (30)	Inter-group (40)	Org-Wide (50)	Inter-Org. (60)
INDIVIDUAL EMPLOYEE	(100)						
Demographics	(110)			1		1	
Needs, Goals	(120)	1		2			
Perceptions	(130)	2		1			
Abilities, Skills	(140)	2	2	1	2	1	
Emotions	(150)						
General Personality	(160)						
Class Total 16		5	2	5	2	2	-
WORKSITUATION & WORKGROUP	(200)						
Structure	(210)			2		4	
Process	(220)			5		2	
Leadership	(230)		1	2		1	
Communication	(240)			7	2	1	
Motivation	(250)						
Class Total 27		-	1	16	2	8	-
ORGANIZATION	(300)						
Structure	(310)			2		6	1
Process	(320)			1		2	
Leadership	(330)				1	4	2
Communication	(340)			4	1	17	2
Motivation	(350)					1	
Class Total 44		-	-	7	2	30	5
ENVIRONMENT	(400)						
Economic	(410)					3	3
Political-Legal	(420)			1	4		2
Social	(430)						1
Technological	(440)						1
General Cultural	(450)					3	
Class Total 18		-	-	1	4	6	7
GRAND TOTAL 105		5	3	29	10	46	12

Note 1: Each of the research studies involved the outcome variable of Adaptiveness-Innovation as a dependent variable, and a determinant variable as an independent variable.

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